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(43)2001-0083242
2001 08 31

(30) 2000-044307 2000 02 22 (JP)

(73) 가 가 1 1 1

(72) 가 가 가 1가 가

가 가 가 1가 가

가 가 가 1가 가

(74)

:

(54)

가 (X, Y) 가 가 , (

IN1, IN2) 1 가 , ,

(2) , .

1

, , , ,

(53) , (56a 56b)가
 (57) ,
 , (60A, 60B) (57)
 (56a 56b) (51) , NOR (52a)
 NOR (52b) (56a, 56b) , NOR (52a)
 , (56b)가 , (55a)
 LSI , (55a, 55b) 가
 , 가 가
 , (57) NOR (52a, 52b) 2
 , 가 (57) 1 가
 ,

가 1
 0-308450 1 3

가 , 1 가 가
 , 1
 , 2
 1 2 1
 2 1
 3 1 2 가 3
 2 1 가
 , 2 3
 , 1
 , 3 3 2
 , 4 1 가 1 2 1
 , 1 가 1 2 , 1 2 가
 2 1 1 2 가
 , 4
 , 5 가
 , 1 MOS , 2 MOS
 , 1 20 가 1 20 가
 1 가
 1
 ,
 ,
 ,
 ,

< 1 >

1

G1 IN1, IN2가 1, Y 2, X가

G1 IN1 (2) IN3 (C₁ + C₂)

X (2) X

(3) IN4 1

2

< 2 >

2

1 2 (2) G1 가 2 2

G1 X가 G1' IN1 Y가 IN2 Z가

OUT, C₁ C₂ G1 X가 G1 IN1 G1' IN3 Y *Y가 IN4 G1'

G1 IN1 G1' IN3

2

< 3 >

3

Y1 Yn (m+n) 가 3 X1 Xm

G1 (m+n) IN1 INm Y1 Yn

(4) m=1 n=1 가 1 (4)

3 X1 Xm 3

G1 Z1 Zk

1

< 4 >

4

3 4

가 G2 G2ⁿ G1 가 4

2 n

1

< 5 >

5

5

5

Y1 Yn 4 X1 Xm

G1 n

가 G2 G2n 가

Y1 Yn n G2ⁿ

5

< 6 >

6

6

NOR 6 2 A

B가 1 2 NOR NR1 A *A B가 2 2 N

OR NR2 *A NR2 1 NOR NR1

2 NOR NR2 A 가 *A

B A 2 NOR 2

1 2 NOR 가 1 A

1 2 NOR NR1 NR2

1 NOR NR1 가 가 가 2 NOR NR2

2 NOR

가

2 , 2

< 7 >

7 7 7 7

2 NOR 2

1 NOR NR1 A B가 1 4 2 NOR NR2 NR1, NR2, NR3, NR4

B가 3 NOR NR3 A B가 2 NOR NR2 A *A

A *A B *B가 *A, *B 4 NOR NR4

A B 1 3 NOR NR1, NR3 1 3 NOR NR1, NR3

*A 가 *B B A 1 2

NOR NR1, NR2 1 2 NOR NR1, NR2 *A A

B *B 가

2 NOR NR2, NR3, NR4 1 NOR NR1 가

4 NOR NR4 4 NOR NR1 NR4 가 7 2 NOR

2 가 2 가

7 , 2 가

< 8 >

8 8 8 8

7 4 3 NOR NR1 NR4 1 NOR NR1 A, B, C가

2 NOR NR2 A *A, B, C가 3 NOR NR3 A, *B,

B *B, C가 4 NOR NR4 A B 1 *A, B

C가 3 NOR 1 2 3 NOR 1 2

3 NOR 1 2 3 NOR 가

C 1 NOR NR1 1 NOR NR1 가

3 NOR NR2, NR3, NR4 1 NOR NR1 NR4

4 NOR NR1 NR4 3 NOR 3

8 가

8 , 3 가

< 9 >

9 9 9 9

3 NOR NR1 NR8 1 NOR NR1 A, B, C가 1 2 NOR

NR2 A *A, B, C가 3 NOR NR3 A, B C가

*B, C가 4 NOR NR4 A *A, B

5 NOR NR5 A, B, C *C가 6 NOR NR6 A *B, C

*A, B, C *C가 8 NOR NR8 *A, B *B, C

C *C가 1 2 3 NOR 1 2 3 NOR

C A B 1 2 3 NOR 1 2 3 NOR

1 2 3 가 C *C A

B 가 1 NOR NR1 1 NOR NR1 가

3 NOR NR2 NR8 1 NOR NR1 NR8

8 NOR NR1 NR8

9 가 . , 3 NOR NR8 , 가 . 3
 9 , 3
 가 .
 < 10 >
 10 , 10
 1 6 3 NOR NR1 NR6 , 1 NOR NR1 A, B, C가
 . 2 NOR NR2 A , 3 NOR NR3
 A, B C가 *B, C가 . 4 NOR NR4 A , *A, B
 NR6 C , 5 NOR NR5 A, B, C *C가 . 6 NOR
 C , A B , 1 2 3 NOR
 , 1 2 3 NOR , 1 2 3 NOR
 , 가 , 가 , C , B C
 , A , 3 NOR 가 , B C
 , 2 3 NOR NR1 NR1 가 .
 , 1 6 NOR NR2 NR6 1 NOR NR1
 10 6 NOR NR1 NR6
 가 , 3 NOR
 10 , 3
 가 .
 < 11 >
 11 11
 11 (1) S_C 11 4 2
 NOR NR1, NR2, NR3, NR4 S₁ S₁ 1 NOR NR1 ,
 S₁ *S₁ 2 NOR NR2 , S₂ 가 3 NOR NR3
 S₂ *S₂ 가 4 NOR NR4 , 1 NOR NR1
 3 NOR NR3 , S₁ S₂
 가 (1) , 1 NOR NR1 S₁ 2 NOR NR2
 *S₁ NR3 4 NOR NR4 S₁ 가 (1) S₁ 3
 NOR S₂ 1 2 NOR NR1 NR2
 3 4 NOR NR3 NR4 , 4 NOR NR4 , 2 NOR NR2
 1 NOR NR1 , 3 NOR NR3
 11 2 NOR S₁ S₂ 가 , 가 2 가
 , 11 S₁ S₂ *S₁ *S₂
 , 가
 11 , 가
 < 12 >
 , 12 12 Clock . Y0 , X1, X2,
 ... , G1, G2, ... Y1, Y2, ... , 12
 , G1, G1', G2, G2', ... X1, *X1, X2, *X2 ... Y0
 , Y0 C₁, C₂, ... X1, X2, ...
 , Y1', Y2'
 , 12
 (,)
 < 13 >

, 13 13 13 (8)
 , G1 G1 B1 Bn C₁ A1 Am G1 G2 C₂가 A
 1 Am (C₁ + C₂)가 in out (8)
 13 1
 < 14 >
 , 14 14 14 (8) (80) 14
 , 13 13
 , 14
 ,
 < 15 >
 , 15 15 (8)
 15 in (C_i) G1 GN in
 , in (8) in
 , in (out 1 out k)
 15
 ,
 < 16 >
 , 16 16 16 15 (8) (80) 15
 16 in
 16
 ,
 < 17 >
 , 22 , (51) 2 NOR
 , 17 (6a, 6b) , 22 17
 (51) 2 (6a, 6b) (57) (56a 56b)
 , (55a) (56a)
 , (55b) (52a 52b) 가 (54)
 , (7) (55a 55)
 17
 b)
 < 18 >
 , 18 18 11 NOR NR1 18
 18 NR1 (1) S_C 2 NOR NR1 S₁ NO
 R NR1 , NOR NR1 , S₁
 , S_C VDD , pMOS1 nMOS1 S₁ pMOS2 nMOS
 2 (1) NOR NR1 S₁
 18 가 , 4 NOR NR4 4 NOR NR2 NR4
 18 , 2 NOR
 ,

< 19 , 19 >
 (1) 19 S_C 2 NAND ND1 , S₁ NAND
 ND1 , NAND 가 ND1 , S₁ S₁
 , S₁ pMOS2 nMOS2 S_C pMOS1 GND nMOS1
 , (1) NAND ND1 S_C 가
 19 , 2 NAND
 < 20 , 20 >
 18 19 (5) 20
 , (5) (5)
 , pMOS VDD , nMOS GND pMOS nMOS가, 20
 20 ,
 , 가 가
 , 가 1 ,
 , 가
 가 .

(57)

1.

가 ;
 , 1 2 , 1 2
 1 1 2 , 2
 1 2 가 .

2.

1 , 1
 1 , 2
 2 .

3.

2 ,

4.

1 , 2 1
 1 2 가 ,

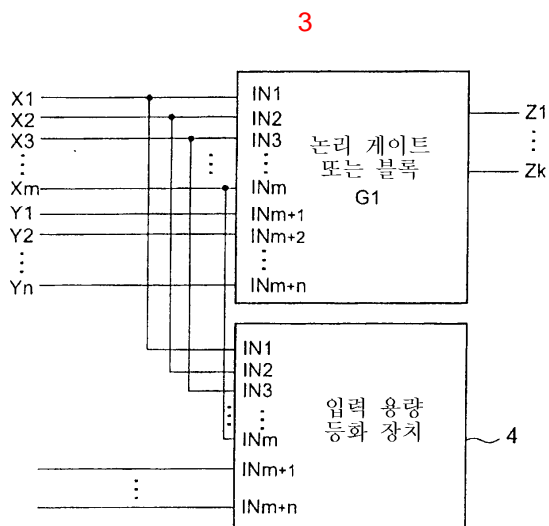
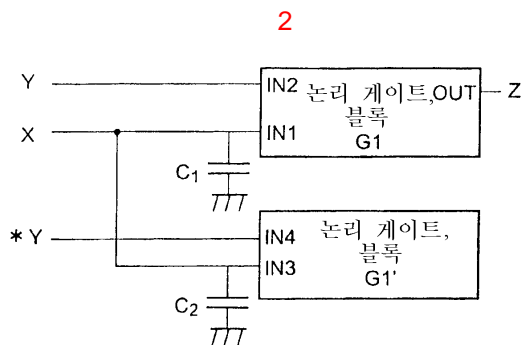
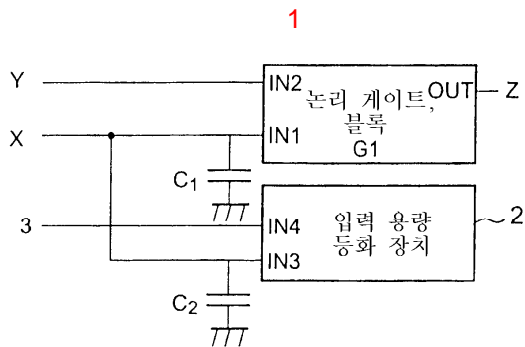
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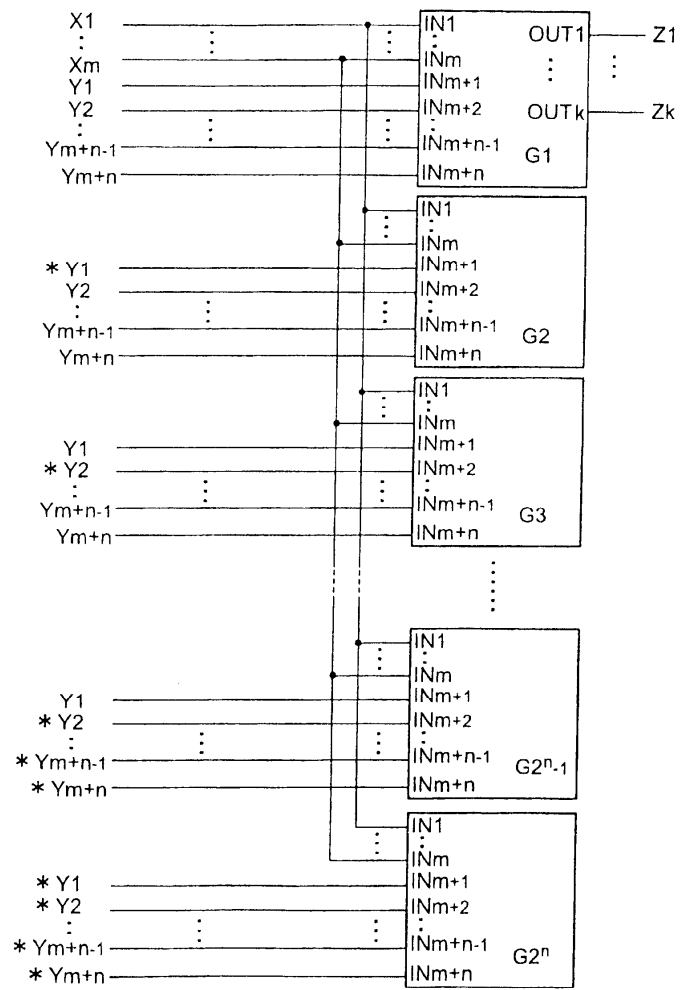
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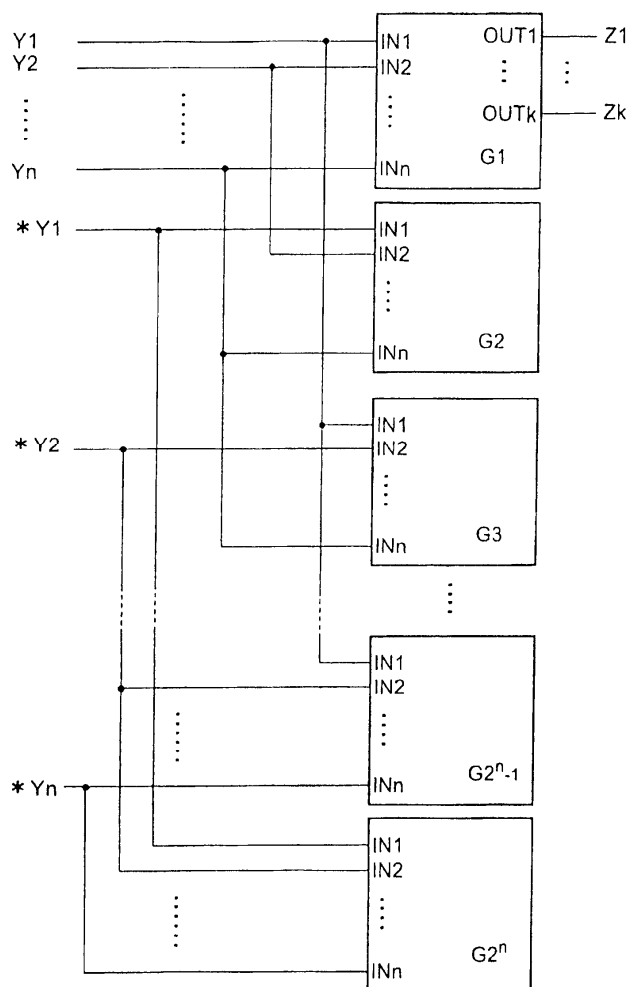
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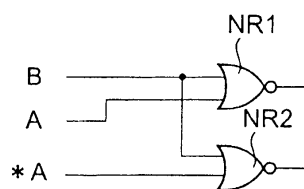
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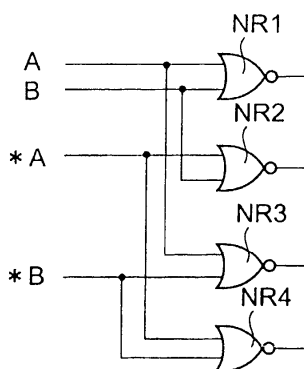
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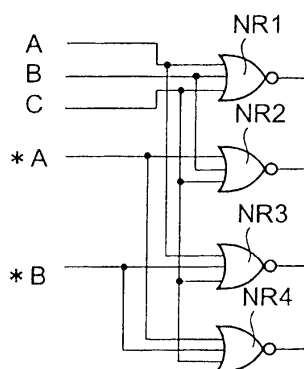
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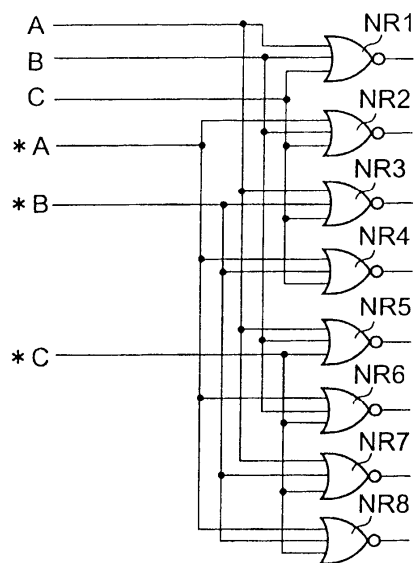
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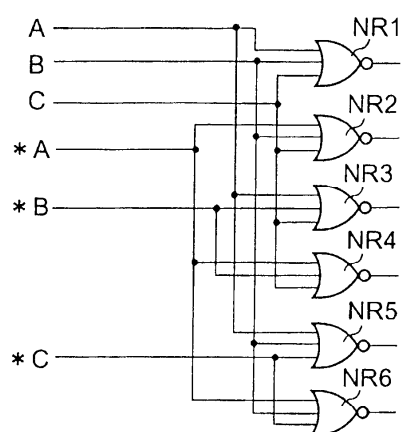
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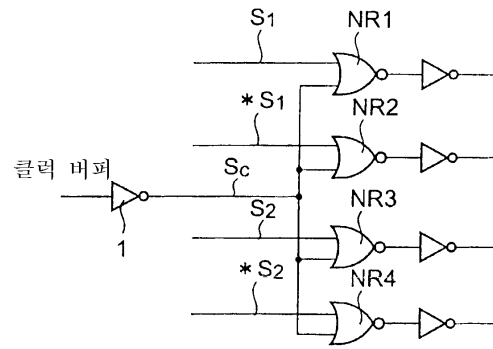
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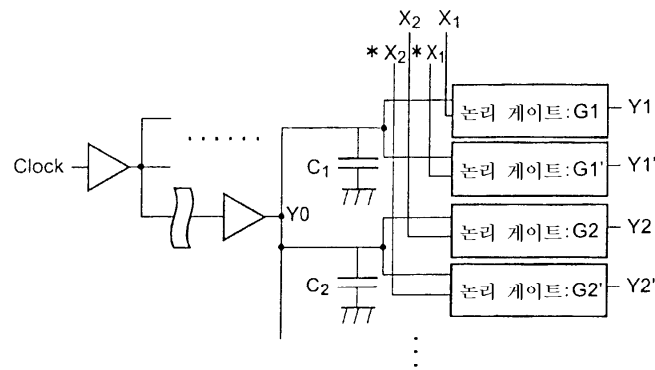
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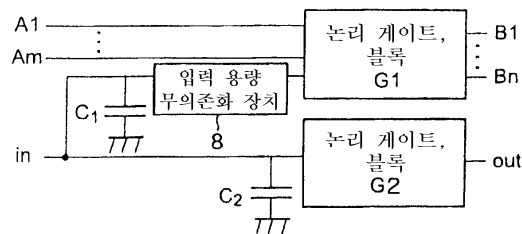
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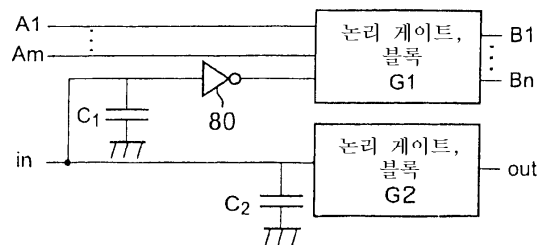
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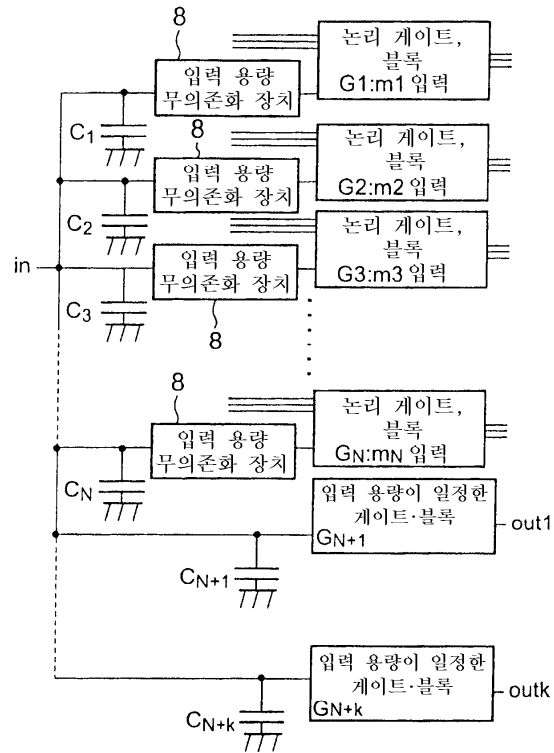
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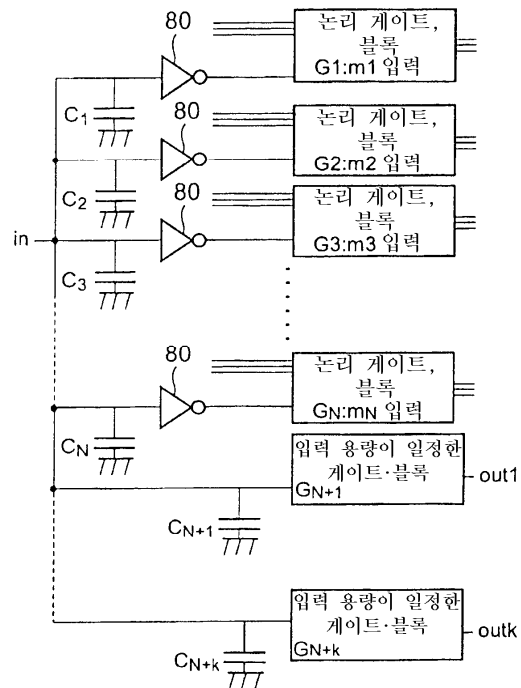
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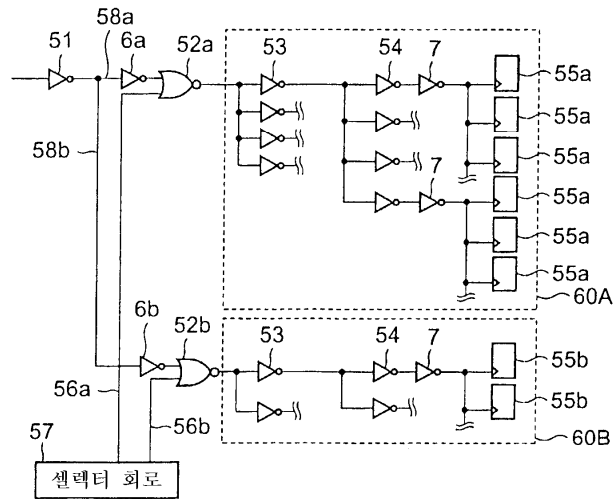
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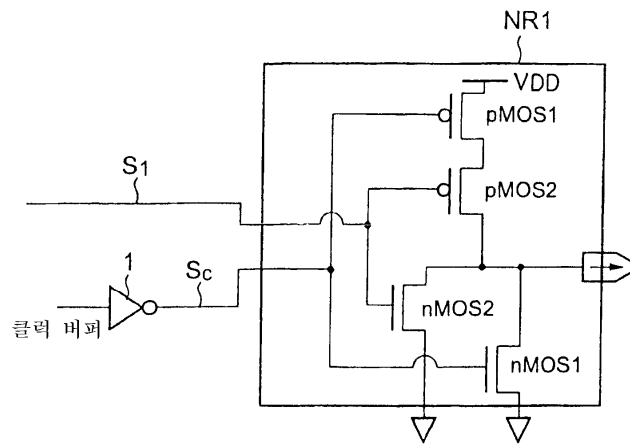
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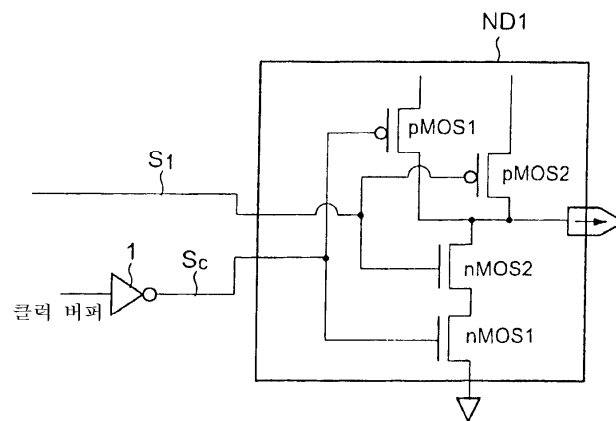
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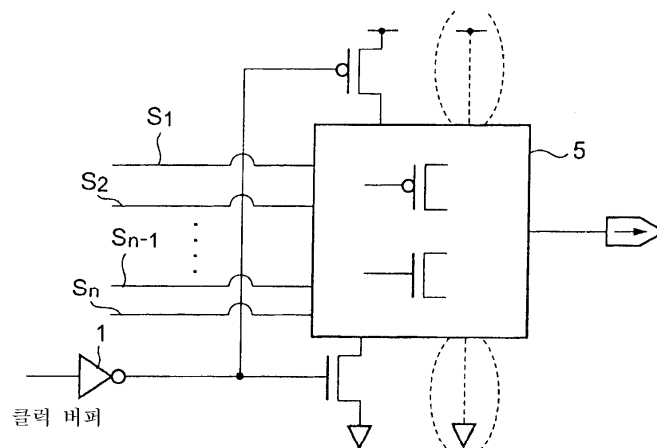
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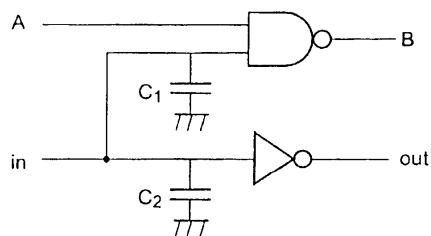
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